

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: Vinodh Francis Pushparaj

Serial No.: 10/767,392 Examiner: Melvin C. Marcelo

Filed: January 28, 2004 Group Art Unit: 2416

Confirmation No.: 4759

For: PREDICTIVE, INTELLIGENT ROUTING OF CALLS TO USERS

Board of Patent Appeals and Interferences  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

**APPLICANTS' BRIEF  
UNDER 37 C.F.R. § 41.37**

Appeal is taken from the Examiner's Final Office Action mailed February 3, 2009, finally rejecting claims 1-26 in this application.

This Appeal Brief is in furtherance of the Notice of Appeal in this case filed on May 4, 2009.

The fees required under § 41.20(b)(2) are dealt with in the accompanying  
TRANSMITTAL OF APPEAL BRIEF.

A single copy of this brief is submitted in accordance with 37 C.F.R. § 41.37(a)(1).

This Brief contains these items under the following headings, and in the order set forth below:

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### **I. REAL PARTY IN INTEREST**

#### **37 C.F.R. § 41.37(c)(1)(i)**

Vinodh Francis Pushparaj and Cisco Technology, Inc., are the real parties in interest.

### **II. RELATED APPEALS AND INTERFERENCES**

#### **37 C.F.R. § 41.37(c)(1)(ii)**

There are no other appeals or interferences known to Applicant, the Applicant's representative, or assignee that will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

### **III. STATUS OF CLAIMS**

#### **37 C.F.R. § 41.37(c)(1)(iii)**

Status of All the Claims:

- 1. Claims presented: 1-26
- 2. Claims withdrawn from consideration but not canceled: None
- 3. Claims canceled: None
- 4. Claims pending: 1-26, of which:
  - a. Claims allowed: NONE
  - b. Claims rejected: 1-26

All the rejected claims, namely claims 1-26, are being appealed. The appealed claims are eligible for appeal, having been finally rejected.

#### **IV. STATUS OF AMENDMENTS**

##### **37 C.F.R. § 41.37(c)(1)(iv)**

There have been no amendments filed subsequent to the Final Office Action dated February 3, 2009.

#### **V. SUMMARY OF THE CLAIMED SUBJECT MATTER**

##### **37 C.F.R. § 41.37(c)(1)(v)**

Claim 1 recites a network device, comprising: a user interface configured to receive a preference from a user to associate at least one contact device and at least one time slot (*see, e.g.*, specification, page 2, line 24 to page 3, line 9; FIG. 2, ref. 40); a predictor configured to predict a probability of the user answering an incoming call intended for the user at each of a plurality of contact devices (*see, e.g.*, specification, page 3, lines 17-18; FIG. 2, ref. 36); a first port to receive the incoming call intended for the user (*see, e.g.*, specification, page 3, lines 12-13; FIG. 2, ref. 32a); a second port to send contact signals to at least one of the plurality of contact devices responsive to the incoming call, depending upon at least one of the preference and the probability (*see, e.g.*, specification, page 3, lines 13-14; FIG. 2, ref. 32b); a processor (*see, e.g.*, specification, page 3, lines 18-19; FIG. 2, ref. 34) to: determine connection information based upon the contact device at which the user responds to the contact signals (*see, e.g.*, specification, page 3, lines 19-20); and transmit the connection information to the predictor to allow the predictor to update probability data associated with the user (*see, e.g.*, specification, page 3, lines 20-23).

Claim 6 recites a method of contacting a user, comprising: receiving an incoming call for a user at a first device (*see, e.g.*, specification, page 4, lines 13-15; FIG. 3, ref. 50); accessing user preferences for contacting the user (*see, e.g.*, specification, page 4, line 15; FIG. 3, ref. 52); predicting a probability of the user answering the incoming call from at least one contact device

based upon the user preferences and probability data (*see, e.g.*, specification, page 4, lines 19-22); transmitting a contact signal to at least one device based on at least one of the user preferences and the probability (*see, e.g.*, specification, page 4, lines 15-16; FIG. 3, ref. 54); determining the success or failure of the contact signal by determining whether the user answered the incoming call (*see, e.g.*, specification, page 4, lines 16-18; FIG. 3, ref. 56); and updating the probability data based on the success or failure of the contact signal (*see, e.g.*, specification, page 4, lines 16-24; FIG. 3, ref. 58).

Claim 20 recites a network device, comprising: a means for receiving a preference from a user associating at least one contact device with at least one time slot (*see, e.g.*, specification, page 2, line 24 to page 3, line 9; FIG. 2, ref. 40); a means for predicting a probability of the user answering an incoming call intended for the user at each of a plurality of contact devices (*see, e.g.*, specification, page 3, lines 17-18; FIG. 2, ref. 36); a means for receiving the incoming call intended for the user (*see, e.g.*, specification, page 3, lines 12-13; FIG. 2, ref. 32a); a means for sending contact signals to at least one of the plurality of contact devices responsive to the incoming call, depending upon at least one of the preference and the probability (*see, e.g.*, specification, page 3, lines 13-14; FIG. 2, ref. 32b); a means (*see, e.g.*, specification, page 3, lines 18-19; FIG. 2, ref. 34) for: determining connection information based upon the contact device at which the user responds to the contact signal (*see, e.g.*, specification, page 3, lines 19-20); and transmitting the connection information to the predictor to allow the predictor to update probability data associated with the user (*see, e.g.*, specification, page 3, lines 20-23).

Claim 22 recites a computer-readable medium containing computer-executable instructions that, when executed, cause the computer to: receive an incoming call for a user at a first device (*see, e.g.*, specification, page 4, lines 13-15; FIG. 3, ref. 50); access user preferences

for contacting the user (*see, e.g.*, specification, page 4, line 15; FIG. 3, ref. 52); predict a probability of the user answering the incoming call from at least one contact device based upon the user preferences and probability data (*see, e.g.*, specification, page 4, lines 19-22); transmit a contact signal to at least one device based on at least one of the user preferences and the probability (*see, e.g.*, specification, page 4, lines 15-16; FIG. 3, ref. 54); determine the success or failure of the contact signal by determining whether the user answered the incoming call (*see, e.g.*, specification, page 4, lines 16-18; FIG. 3, ref. 56); and update the probability data based on the success or failure of the contact signal (*see, e.g.*, specification, page 4, lines 16-24; FIG. 3, ref. 58).

Claim 26 recites a method of contacting a user, comprising: receiving an incoming call for a first user from a second user (*see, e.g.*, specification, page 4, lines 13-15; FIG. 3, ref. 50); accessing a first probability of the first user answering the incoming call on a first contact device (*see, e.g.*, specification, page 4, line 15; FIG. 3, ref. 52); transmitting the incoming call to the first contact device based on the first probability (*see, e.g.*, specification, page 4, lines 15-16; FIG. 3, ref. 54); determining the success or failure of the transmitting by determining whether the first user answered the incoming call at the first device (*see, e.g.*, specification, page 4, lines 16-18; FIG. 3, ref. 56); updating probability data based on the success or failure of the transmitting (*see, e.g.*, specification, page 4, lines 16-24; FIG. 3, ref. 58); and when a failure is determined (*see, e.g.*, specification, page 3, lines 4-8): accessing a second probability of the first user answering the incoming call on a second contact device from the plurality of contact devices (*see, e.g.*, specification, page 4, line 15; FIG. 3, ref. 52); and transmitting the incoming call to the second contact device based on the second probability (*see, e.g.*, specification, page 4, lines 15-16; FIG. 3, ref. 54).

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

### **37 C.F.R. § 41.37(c)(1)(vi)**

The Examiner has rejected claims 1-26 under 35 U.S.C. § 103(a) as being unpatentable over Horvitz (U.S. Patent No. 6,618,716 B1).

## **VII. ARGUMENT**

### **37 C.F.R. § 41.37(c)(1)(vii)**

#### **I. Grouping of Claims**

For purposes of the rejections under 35 U.S.C. § 103(a), the claims include sixteen groups of claims. Claims 1, 4, 5, and 20 are grouped together. Claims 2 and 21 are grouped together. Claim 3 comprises a group. Claims 6, 7, 11, and 22 are grouped together. Claim 8 comprises a group. Claim 9 comprises a group. Claim 10 comprises a group. Claim 12 comprises a group. Claim 13 comprises a group. Claim 14 comprises a group. Claims 15 and 23 are grouped together. Claims 16 and 24 are grouped together. Claims 17 and 25 are grouped together. Claim 18 comprises a group. Claim 19 comprises a group. Claim 26 comprises a group.

#### **II. Rejections under 35 U.S.C. § 103(a) over Horvitz**

##### **A. Claims 1, 4, 5, and 20 are patentable over Horvitz.**

Insofar as claims 1, 4, 5, and 20 have been rejected under the same grounds, Applicant argues the claims as a group. The arguments below are made with respect to claim 1 on behalf of the group.

1. Horvitz does not teach a user interface configured to receive a preference from a user to associate at least one contact device and at least one time slot.

Claim 1 recites “a user interface configured to receive a preference from a user to associate at least one contact device and at least one time slot.” The Examiner acknowledges that Horvitz does not teach this feature, but then proposes that this feature would be obvious in view of Horvitz. *See* Final Office Action, page 9, stating “Obvious since the user can specify a user profile (column 7, lines 16-21), wherein a skilled artisan would have been motivated to

specify their cell phone during their lunch hour since they are away from the office.” However, the Examiner is ignoring the specific teachings of Horvitz in asserting the obviousness of this feature. Specifically, the system of Horvitz does not make a probability determination on where to send an alert; it makes a determination on whether to send the alert at all. *See* Horvitz col. 3, lines 9-10, stating “The importance of the alerts also can determine whether the user is alerted.” This determination is based on the probability that the user will want to be interrupted by the alert, and possibly the importance of the alert. *See* Horvitz col. 3, lines 5-9, stating “the expected value of transmitting an alert determines whether the user desires to be alerted, based on what the user is currently doing, for example, on the current sensed activity and his or her prior history of responding to alerts.” If the decision is made to send the alert, it will always be sent to the same place, the computer the user is working on. *See* Horvitz col. 8, lines 15-17, stating “it is noted that alerts provide information at a cost of interruption and obstruction of valuable screen real estate.” Thus, there is no reason for the user profile in Horvitz to include a preference from a user to associate at least one contact device and at least one time slot, as recited in claim 1.

Further, the only mention in Horvitz of a user specifying any type of preference is at col. 7, lines 16-21. This portion of Horvitz states “The profile 302 includes a user profile directly specified by the user or assessed from the user, or of knowledge that has been learned by observing user’s responses to previous alerts.” *See* Horvitz col. 7, lines 18-21. Further, the profile 302 is used to generate “a probability distribution over different states of attention” (Horvitz col. 7, lines 5-6), also described as “the probability distribution over a user’s focus of attention” (Horvitz col. 7, lines 13-14) and “the single availability probability that a user is open to or actively seeking notifications” (Horvitz col. 8, lines 3-4). There is no other discussion in Horvitz of the contents of the profile 302 or what contents of the profile 302 are “directly specified” by the user. Therefore, by asserting that it is obvious to modify the profile 302 of Horvitz to include specific preferences that are recited only in the applicant’s claims, the Examiner is impermissibly analyzing Horvitz in view of the applicant’s claims rather than based on the actual teachings of the reference.

Moreover, the Examiner’s proposed motivation for the combination shows the hindsight nature of the rejection. Specifically, the Examiner states that “a skilled artisan would have been motivated to specify their cell phone during their lunch hour since they are away from the

office.” *See* Final Office Action, page 9. However, the decision of whether to send an alert in Horvitz is not based on determining the location of the user; it is based on the user’s focus of attention. *See* Horvitz col. 7, lines 27-67, describing all of the various considerations that can be used to determine the user’s focus including, among other things, how quickly the user is typing on a keyboard, movements of the mouse, whether the user is talking to other people in the room, and the user’s interactions with programs on the computer. None of this has anything to do with whether the user is out to lunch or whether they should be contacted on their desk phone or their cell phone. Further, Horvitz does not have any teachings about sending an alert anywhere other than the computer the user is working on. Therefore, Horvitz’s teachings of a user profile only support, at most, a user specifying if they would be receptive to such alerts; not where such alerts should be sent at specific times of day. Consequently, the Examiner’s proposed motivation has been impermissibly tainted by the applicant’s own claims, which do refer to determining on which device a user is likely to answer a call.

For each of these reasons, this feature of claim 1 is not obvious in view of Horvitz and this rejection is based entirely on the Examiner’s impermissible interpretation of the reference in view of the applicant’s claims rather than the other way around.

2. Horvitz does not teach a predictor configured to predict a probability of the user answering an incoming call intended for the user at each of a plurality of contact devices.

Claim 1 recites “a predictor configured to predict a probability of the user answering an incoming call intended for the user at each of a plurality of contact devices.” Again, the Examiner acknowledges that Horvitz does not teach this feature, but then proposes it is obvious in view of Horvitz. *See* Final Office Action, page 10. Specifically, the Examiner asserts that this feature is “Obvious since the Attentional Status Module 204 in Figure 2 generates a probability distribution in addition to the single availability probability, column 7, lines 4-26.” *See id.* However, the system of Horvitz is not based on where a user will accept an alert; it is based on whether the user desires to receive the alert at all. *See* Horvitz col. 3, lines 5-9, stating “the expected value of transmitting an alert determines whether the user desires to be alerted, based on what the user is currently doing, for example, on the current sensed activity and his or her



prior history of responding to alerts.” Moreover, Horvitz teaches that all alerts go to the user’s computer, not a plurality of devices. Therefore, there is no reason for the system of Horvitz to calculate a probability for each of a plurality of contact devices when the system already knows where the user is located, it is just determining whether the user wants to be disturbed or not. Consequently, this feature is also not an obvious modification of Horvitz.

Further, the Examiner’s analysis has again been tainted by the applicant’s own disclosure. For example, the Examiner asserts that this feature is “Obvious since the Attentional Status Module 204 in Figure 2 generates a probability distribution in addition to the single availability probability, column 7, lines 4-26.” *See* Final Office Action, page 10. However, the probability generated in Horvitz is “defined as the probability distribution over a user’s focus of attention” (*see* Horvitz col. 7, lines 13-14) and is based on “the probability that the user is in a state that makes receipt of an alert or notification a low cost event, which as described is defined in one embodiment as the probability that the user is receptive to receiving an alert or is actively seeking the peripheral information associated with one or more alerts” (*see* Horvitz col. 7, lines 8-13). Thus, the probability in Horvitz has nothing to do with a probability of the user answering an incoming call intended for the user at each of a plurality of contact devices, as recited in the claim. The Examiner’s assertion of obviousness assumes first that Horvitz teaches a probability of a user answering a call on a first device and then proposes that it would be obvious to include a probability for several devices. However, Horvitz does not actually teach the first probability assumed in the Examiner’s rejection, so the purported obviousness is wholly unsupported.

For each of these reasons, this feature of claim 1 is not obvious in view of Horvitz and this rejection is based entirely on the Examiner’s impermissible interpretation of the reference in view of the applicant’s claims.

### 3. Summary

In summary, Horvitz does not teach or render obvious the features recited in claim 1 including: a user interface configured to receive a preference from a user to associate at least one contact device and at least one time slot; and a predictor configured to predict a probability of the user answering an incoming call intended for the user at each of a plurality of contact devices. Instead, the Examiner’s assertions of obviousness appear to be based solely on impermissible

hindsight rather than the actual teachings of the reference. Accordingly, claim 1 is patentable over Horvitz. Similarly, independent claim 20 is allowable, as are dependent claims 4 and 5.

- B. Claim 2 is patentable over Horvitz as Horvitz does not teach a memory to store probability data comprising a list of associations between contact devices and time slots.

Claim 2 recites “a memory to store...probability data comprising a list of associations between contact devices and time slots.” The Examiner proposes that this feature is “inherent” in Horvitz. *See* Final Office Action, page 10. However, the Examiner has already acknowledged in the rejection of claim 1 that Horvitz does not even teach an association between a contact device and a time slot. *See* Final Office Action, page 9. Therefore, it could not be inherent in Horvitz to include a memory to store such associations. *See* MPEP § 2112(IV), *citing Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter., 1990) (stating “When relying on the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied art”, emphasis in original). A memory to store specific associations could not “necessarily flow” from the teachings of Horvitz when Horvitz does not teach the associations in the first place.

Moreover, the system of Horvitz is not concerned with specific contact devices associated with specific time slots; instead Horvitz is directed to whether a user is amenable to being interrupted while working on their computer based on their level of focus. The Examiner has already asserted that it is obvious to modify Horvitz to include a user preference to associate at least one contact device and at least one time slot in the rejection of claim 1. As discussed above, this is not an obvious modification of the teachings of Horvitz. Now, the Examiner is asserting that it is obvious to modify Horvitz to include multiple associations between contact devices and time slots. Again, there is no basis in the teachings of Horvitz for such a modification, and instead the Examiner’s rejections result from the Examiner impermissibly viewing Horvitz through the lens of the applicant’s claims.

For each of these reasons, the features of claim 2 are not inherent in, or rendered obvious by, the teachings of Horvitz and this rejection is based entirely on the Examiner’s impermissible

interpretation of the reference in view of the applicant's claims. Accordingly, the Examiner has committed clear error in maintaining the rejection of claim 2 and the applicant requests that the Board reverse the Examiner's rejection of claims 2 and 21.

C. Claim 3 is patentable over Horvitz as Horvitz does not teach or suggest any modes of operation.

Claim 3 refers to three different modes of operation and a user being able to select a mode for determining which devices they will be contacted on. In the combination mode, both a user preference and a probability are used to determine where to contact the user. The Examiner asserts that this feature is taught in Horvitz. *See* Final Office Action, page 11. However, as described above, Horvitz does not teach a user preference associating a contact device and a time slot. Further, Horvitz's probability is not a probability of a user answering an incoming call at a specific device; it is a probability of the user desiring to be interrupted at their computer. Therefore, Horvitz does not teach this mode of operation.

In the preference mode recited in claim 3, only the user preference is used to determine where to contact the user. The Examiner argues that this is an "Obvious choice in design". *See* Final Office Action, page 11. However, the teachings of Horvitz specifically preclude such a modification. Horvitz teaches that "The probability 300 is generated in one embodiment by considering a profile of prior knowledge 302, as well as one or more contextual events 304", "profile 302 includes a user profile directly specified by the user or assessed from the user, or of knowledge that has been learned by observing user's responses to previous alerts", and "contextual events 304 includes computer information as well as external information." *See* Horvitz col. 7, lines 16-28. Thus, Horvitz teaches that its system calculates the probability based at least upon both a user specified profile and contextual events; not solely upon the user specified profile. Thus, it is not obvious to modify Horvitz to calculate the probability based solely upon the user specified profile.

Further, claim 3 refers to a user selecting which mode to use. Although not specific, the applicant assumes that the Examiner is also proposing that this feature is obvious in view of Horvitz. *See* Final Office Action, page 11, not pointing to any specific teachings of Horvitz with respect to this feature. Horvitz clearly does not include any explicit teachings of selecting

different modes of operation of its system. The applicant would like to point out that the Examiner has created a third level abstraction and called it obvious. In the Examiner's view: it is first obvious to modify Horvitz to include contact devices in its user preference (as recited in claim 1); then, because that was obvious, it is now obvious to modify Horvitz so that the system can make a determination based solely on the user preference (as recited in claim 3); and finally, because that was obvious, it is now obvious to have a user interface configured to receive a selection from the user to select the mode (also recited in claim 3). The applicant submits that such reasoning could only be the result of impermissible hindsight and is in no way supported by the teachings of Horvitz. The Examiner's proposed obviousness goes far beyond the teachings of Horvitz and instead blatantly reads the claimed features onto Horvitz in an attempt to support the obviousness rejections. Accordingly, the Examiner has committed clear error in maintaining the rejection of claim 3 and the applicant requests that the Board reverse the Examiner's rejection of claim 3.

- D. Claims 6, 7, 11, and 22 are patentable over Horvitz as Horvitz does not teach predicting a probability of a user answering an incoming call from at least one contact device.

Insofar as claims 6, 7, 11, and 22 have been rejected under the same grounds, Applicant argues the claims as a group. The arguments below are made with respect to claim 6 on behalf of the group.

Claim 6 refers to predicting a probability of the user answering an incoming call from at least one contact device. The Examiner acknowledges that Horvitz does not teach this feature, but then proposes that this is an obvious modification of Horvitz. *See* Final Office Action, page 12. However, as discussed above with respect to claim 1, this feature is not obvious in view of Horvitz because Horvitz does not teach a probability based on a user answering a call at a specific device; instead Horvitz teaches a "probability distribution over a user's focus of attention" and a "single availability probability that user is open to or actively seeking notifications." *See* Horvitz col. 8, lines 1-4. Therefore, Horvitz does not render this feature of claim 6 obvious.

Moreover, the system of Horvitz only sends alerts to the computer on which the user is working, not to multiple devices. *See* Horvitz col. 8, lines 15-17, stating “it is noted that alerts provide information at a cost of interruption and obstruction of valuable screen real estate.” Thus, the system of Horvitz has no reason to predict the probability of a user answering an incoming call on a specific contact device.

Also, the claim specifically refers to a user answering a call. The system of Horvitz can accept incoming calls, but it does not forward the calls to the user. Instead it merely sends an alert notifying the user that the call was received. *See* Horvitz col. 6, lines 51-54, stating “The notifications decision-making module...206 alerts the user of the alerts received by the module 202.” Therefore, the system of Horvitz has no reason to predict the probability of a user answering a call because the concept of a user answering a call is completely outside the scope of the disclosure of Horvitz.

For each of these reasons, Horvitz does not teach or render obvious the features of claim 6. Accordingly, the Examiner’s continued assertions to the contrary constitute clear error. Consequently, the applicant requests that the Board reverse the rejections of claims 6, 7, 11, and 22.

- E. Claim 8 is patentable over Horvitz as Horvitz does not teach accessing an indicator specifying at least one of a predictive mode, a combination mode, and a preference mode.

Claim 8 recites “accessing an indicator specifying at least one of a predictive mode, a combination mode, and a preference mode.” The Examiner asserts that this is an obvious modification of Horvitz. *See* Final Office Action, page 13. However, there is nothing in Horvitz that teaches or suggests that it can operate in anything other than a combination mode (using a user specified profile to calculate the probability). Therefore, there is no reason in Horvitz to access an indicator specifying which mode to operate in when the system only has, at best, one mode of operation. Accordingly, this feature of claim 8 is not an obvious modification of Horvitz and does not render claim 8 obvious. Consequently, the applicant requests that the Board reverse the Examiner’s rejection of claim 8.

- F. Claim 9 is patentable over Horvitz as Horvitz does not teach applying a weighting factor based on user preferences to a probability.

Claim 9 recites “transmitting the contact signals further comprising determining the at least one device by applying a weighting factor based on the user preferences to the probability.” The Examiner acknowledges that Horvitz does not teach this feature, but then asserts that this is obvious because, in Horvitz, the user profile is only one of many factors. *See* Final Office Action, page 13. However, just because Horvitz teaches that its probability is based on many factors, does not mean that it is obvious to apply weights to each of the factors, or more specifically, to the user preference factor. As an initial matter, Horvitz does not even require that a user-specified preference be included in its probability; it is optional. *See* Horvitz col. 7, lines 16-21. Further, the Examiner has not provided any reference that teaches applying a weighting factor to a user preference in order to generate a probability that a user will answer a call at a specific device. Thus, the Examiner’s proposed obvious modification of Horvitz appears to come directly from the applicant’s own disclosure, rather than from the teachings of any reference. Therefore, the rejection of claim 9 is based on impermissible hindsight rather than the teachings of any references and thus constitutes clear error on the Examiner’s part. Consequently, the applicant requests that the Board reverse the rejection of claim 9.

- G. Claim 10 is patentable over Horvitz as Horvitz does not teach transmitting a contact signal to a plurality of contact devices based on at least one of user preferences and a probability.

Claim 10 recites “transmitting the contact signal to a plurality of contact devices based on at least one of the user preferences and the probability.” The Examiner proposes that this is obvious because “a skilled artisan would have been motivated to designate a plurality of contact devices in their user profile for highly critical messages.” *See* Final Office Action, page 14. However, even if the Examiner’s statement were taken to be true, it does not teach the claimed feature. Specifically, even if a user of Horvitz’s system designates a plurality of contact devices in their profile, this does not mean that the system is going to send an alert to more than one of the devices.

Further, the Examiner's proposed obvious feature is entirely inconsistent with the teachings of Horvitz, or in other words, Horvitz teaches away from the proposed modification. The purpose of Horvitz's system is to consolidate alerts and to avoid distracting a user when they are not amenable to receiving alerts. *See* Horvitz col. 2, line 66 through col. 3, line 2, stating "Embodiments of the invention provide for advantages over the prior art. A user, for example, is not confronted with different alerts made in different manners ad hoc by different sources (e.g., programs or devices)." Despite these explicit teachings in Horvitz about consolidating alerts and not distracting a user when they do not want to be distracted, the Examiner proposes that it would be obvious to send an alert to multiple devices, thus multiplying the distraction. Such a modification is clearly not consistent with the disclosure of Horvitz. Consequently, Horvitz teaches away from the Examiner's proposed modification.

For each of these reasons, the Examiner's continued rejection of claim 10 constitutes clear error. Accordingly, the applicant requests that the Board reverse the rejection of claim 10.

H. Claim 12 is patentable over Horvitz as Horvitz does not teach transmitting one of the group consisting of a phone call, a fax signal, an instant message or a video call.

Further regarding claim 12, the claim refers to transmitting one of the group consisting of: a phone call, a fax signal, an instant message or a video call. Although Horvitz does teach that information can be received from a telephone (*see* Horvitz col. 2, lines 48-51), it does not teach that any of a phone call, a fax signal, an instant message, or a video call are transmitted to the user. Instead, in Horvitz, an alert about the incoming message is sent, not the message itself. *See* Horvitz col. 6, lines 51-54, stating "The notifications decision-making module...206 alerts the user of the alerts received by the module 202." Therefore, Horvitz does not teach transmitting a call, as recited in claim 12.

The Examiner proposes that this feature is "Obvious since Horvitz teaches that the contact signal can be audio and/or visual in column 6, lines 55-57." *See* Final Office Action, page 14. However, the Examiner is reading this excerpt from Horvitz out of context. When read in context, Horvitz is clearly referring to "audio and/or visual" alerts provided on the computer on which the user is working; not sending a phone call or a fax. *See, e.g.,* Horvitz col. 3, lines

10-17, stating “the notification decision-making module ensures that alerts are presented to the user in a consistent manner, regardless of the source of the alerts, and can decide in one embodiment the manner of the alert based on its importance--for example, a salient visual and audio alert in the case of an extremely important alert, and a pleasant, low volume audio-only alert in the case of a low-priority alert”; *see also* Horvitz col. 8, lines 15-17, stating “it is noted that alerts provide information at a cost of interruption and obstruction of valuable screen real estate.” The stated purpose of Horvitz is to consolidate alerts for display to the user on the computer the user is working on; thus it is not obvious to modify Horvitz to send a phone call, a fax signal, an instant message or a video call, as the Examiner proposes.

For each of these reasons, the Examiner’s continued rejection of claim 12 constitutes clear error. Accordingly, the applicant requests that the Board reverse the rejection of claim 12.

- I. Claim 13 is patentable over Horvitz as Horvitz does not teach determining at what contact device a user answers an incoming call.

Claim 13 recites “determining at what contact device the user answers the incoming call.” The Examiner proposes that this is obvious because “Horvitz observes the user’s response to previous alerts in column 7, lines 23-26.” See Final Office Action, page 14. However, even if the Examiner’s statement is taken as true, it still does not teach the claimed feature. Specifically, the system of Horvitz monitors the user’s response to see if the user responds to the alert or not; not to determine on what device the user acknowledges the alert. *See* Horvitz col. 7, lines 22-26, stating “the profile 302 in this embodiment includes how the user has responded previously to alerts made. If the user has been receptive to alerts in the past, for example, this may increase the probability 300, while if the user has not been receptive to alerts in the past, this may decrease the probability 300.” In order to do this, Horvitz does not need to determine what device the user responded on; the system of Horvitz already knows what device the user responded on because it only sent the alert to the user’s computer. *See* Horvitz col. 8, lines 15-17, stating “it is noted that alerts provide information at a cost of interruption and obstruction of valuable screen real estate.” Therefore, there is no reason for the system of Horvitz to determine on what device a user responds to an alert, because it does not send the alert to more than one device and the system already knows the device on which the user responded, if the user responds at all. Thus, this



feature is not obvious in view of Horvitz. Accordingly, the Examiner's continued rejection of claim 13 constitutes clear error and the applicant requests that the Board reverse the rejection of claim 13.

- J. Claim 14 is patentable over Horvitz as Horvitz does not teach raising a probability of the contact device at which a user answers an incoming call.

Claim 14 recites "raising the probability of the contact device at which the user answers the incoming call." The Examiner proposes that this is taught in Horvitz at col. 7, lines 23-26. *See* Final Office Action, page 14. However, the cited portion of Horvitz merely teaches that, in its system, the probability of a user wanting to receive an alert increases if the user has responded previously to similar alerts; not that the probability of a specific device at which the user answers an incoming call is raised. *See* Horvitz col. 7, lines 23-26, stating "If the user has been receptive to alerts in the past, for example, this may increase the probability 300, while if the user has not been receptive to alerts in the past, this may decrease the probability 300." As discussed above, the probability in Horvitz does not even include separate probabilities for separate devices, at least because all alerts are sent to the computer the user is working on. *See* Horvitz col. 8, lines 15-17. Therefore, this teaching of Horvitz could not teach raising the probability of a contact device at which the user responds to the alert; it necessarily refers to raising the probability that the user will want to receive the alert on the computer screen on which the user is working. Consequently, this feature is not taught in Horvitz as the Examiner proposes. Accordingly, the applicant requests that the Board reverse the Examiner's rejection of claim 14.

- K. Claim 15 is patentable over Horvitz.

1. Horvitz does not teach determining that a success rate is below a failure threshold after a predetermined period of time.

Claim 15 recites "determining that a success rate is below a failure threshold after a predetermined period of time." The Examiner proposes that Horvitz teaches this feature because "Probability is decreased if the user has not been receptive to alerts in the past, column 7, lines 23-26." *See* Final Office Action, page 15. However, this statement by the Examiner does not establish that Horvitz teaches the claimed feature. For example, this citation to Horvitz does not

mention anything about a success rate, a failure threshold, or a predetermined period of time. Instead, the cited portion of Horvitz merely teaches that its probability is updated dependent on whether the user was responsive to an alert. Thus, even if the Examiner's statement is true, it does not establish that Horvitz teaches any of the features recited in the claim.

Moreover, Horvitz does not actually teach any of these features. There is no mention in Horvitz of tracking a success rate, establishing a failure threshold, comparing a success rate to a failure threshold, or waiting a predetermined period of time to compare a success rate to a failure threshold. Horvitz simply teaches that each time an alert is sent, its probability distribution can be updated.

Accordingly, Horvitz does not teach these features of claim 15 and the Examiner's insistence to the contrary constitutes clear error.

2. Horvitz does not teach querying a user to select a broadcast mode, select a probability mode, or update user preferences.

Claim 15 further recites "querying the user to select a broadcast mode, select a probability mode, or update the user preferences." The Examiner proposes that "It would have been obvious to query the user to update its user profile to a best mode of prediction where the currently selected user profile has resulted in zero or near zero reception of alerts." *See* Final Office Action, page 15. The Examiner's position is wholly unsupportable under the disclosure of Horvitz. Horvitz does not teach more than one user profile; therefore, there is no "currently selected user profile" in Horvitz to update. Further, the whole point of Horvitz is to avoid distracting the user when the user does not want to be distracted. *See* Horvitz col. 2, line 66 through col. 3, line 2, stating "Embodiments of the invention provide for advantages over the prior art. A user, for example, is not confronted with different alerts made in different manners ad hoc by different sources (e.g., programs or devices)." Thus, it would not be obvious to query the user to update the user profile when the user is not responding to alerts because the user does not want to be disturbed.

Moreover, even if the Examiner's statement were assumed to be true, it still does not establish the obviousness of the applicant's claims. For example, even if it was obvious in view of Horvitz to query the user to update the user profile, as the Examiner proposes, there is still no

teachings in Horvitz to support querying the user to select a broadcast mode or a probability mode. Horvitz's system only has one mode of operation; thus, it could not be obvious to modify the system to select different modes.

For each of these reasons, Horvitz does not teach or render obvious this feature of claim 15 and the Examiner's insistence to the contrary constitutes clear error.

### 3. Summary

Horvitz does not teach or render obvious any of the features of claim 15. As an initial matter, Horvitz does not teach any modes of operation of its system. Therefore, there is no reason for it to query a user about which mode to enter in response to a failure threshold. Further, there is nothing in Horvitz to suggest that its system includes any type of failure threshold or that it even tracks a success rate to compare to such a failure threshold. Therefore, Horvitz does not teach or render obvious any of the features of this claim. Accordingly, the applicant requests that the Board reverse the Examiner's rejection of claims 15 and 23.

#### L. Claim 16 is patentable over Horvitz.

##### 1. Horvitz does not teach determining that a success rate is above a success threshold.

Claim 16 recites "determining that a success rate is above a success threshold." The Examiner asserts that Horvitz teaches this feature because "Probability is increased for successful reception of alerts in the past, column 7, lines 23-26." *See* Final Office Action, page 15. However, this statement by the Examiner does not establish that Horvitz teaches the claimed feature. For example, this citation to Horvitz does not mention anything about a success rate or a success threshold. Instead, the cited portion of Horvitz merely teaches that its probability is updated dependent on whether the user was responsive to an alert. Thus, even if the Examiner's statement is true, it does not establish that Horvitz teaches any of the features recited in the claim.

Moreover, Horvitz does not actually teach any of these features. There is no mention in Horvitz of tracking a success rate, establishing a success threshold, or comparing a success rate

to a success threshold. Horvitz simply teaches that each time an alert is sent, the probability distribution can be updated.

Accordingly, Horvitz does not teach these features of claim 16 and the Examiner's insistence to the contrary constitutes clear error.

2. Horvitz does not teach determining a probability for each of a plurality of contact devices based upon past successes.

Claim 16 also recites "determining a probability for each of a plurality of contact devices based upon past successes." As discussed above, there is only one contact device in Horvitz, the computer on which the user is working. *See* Horvitz col. 8, lines 15-17. Thus, Horvitz cannot teach or render obvious this feature of claim 16. Once again, the Examiner is viewing Horvitz through the lens of the applicant's own disclosure and asserting the obviousness of claimed features that have nothing to do with the disclosure of Horvitz. Accordingly, Horvitz does not teach these features of claim 16 and the Examiner's insistence to the contrary constitutes clear error.

### 3. Summary

Horvitz does not teach or render obvious any of the features of claim 16. Horvitz does not contain any teachings regarding success rates, success thresholds, or calculating probabilities for specific devices. Accordingly, the applicant requests that the Board reverse the Examiner's rejection of claims 16 and 24.

- M. Claim 17 is patentable over Horvitz as Horvitz does not teach several of the features of the claim.

Claim 17 recites several features that are not taught by Horvitz and are not obvious in view of Horvitz. First, the claim recites "determining a first set of contact devices having a probability of success within a predetermined range." There is nothing in Horvitz to suggest that contact devices are determined based on a predetermined range; the system of Horvitz is based on either sending or not sending an alert based solely on a probability that the user will want to be disturbed. *See* Horvitz col. 7, lines 8-13.

Second, the claim recites “sending multiple contact signals to contact devices in the first set in parallel.” Again, there is nothing in Horvitz to suggest that multiple alerts are sent out in parallel, and Horvitz actually teaches the exact opposite. *See* Horvitz col. 2, line 66 through col. 3, line 2, stating “Embodiments of the invention provide for advantages over the prior art. A user, for example, is not confronted with different alerts made in different manners ad hoc by different sources (e.g., programs or devices).” Further, there would be no reason for this feature in Horvitz because the system in Horvitz already knows where the user is at; it just has to predict whether the user is amenable to an alert at their current location.

Third, the claim recites “if no success occurs, determining a next set of contact devices having a probability of success within a next range.” There is nothing in Horvitz to suggest that its system tries to determine a second set of contact devices if the first alert is not responded to. In actuality, if the first alert is not responded to in Horvitz, that probably means the user was not amenable to alerts at that time, so sending another alert would actually be contrary to the teachings of Horvitz. Horvitz merely teaches that the probability is updated when a failure (or success) occurs; not that a new set of contact devices is determined. *See* Horvitz col. 7, lines 21-26.

For each of these reasons, Horvitz does not teach or render obvious any of the features of this claim. Accordingly, the Examiner’s continued rejection of claim 17 constitutes clear error and the applicant requests that the Board reverse the rejection of claims 17 and 25.

N. Claim 18 is patentable over Horvitz as Horvitz does not teach repeating the determining and sending processes until a success occurs.

Claim 18 recites “repeating the determining and sending processes until a success occurs.” The Examiner argues that it would have been obvious to keep trying for a critical message. *See* Final Office Action, page 16. However, the Examiner’s proposed obviousness is contrary to the explicit teachings of Horvitz. The whole point of the system of Horvitz is to avoid distracting a user when they do not want to be distracted. *See* Horvitz col. 2, line 66 through col. 3, line 2. Therefore, continuing to send alerts to a user who does not want to be distracted is not within the scope of Horvitz and it is contrary to the teachings of Horvitz.

Further, the disclosure of Horvitz already accounts for the possibility of a critical message by varying the visual/audio nature of the alert. *See* Horvitz col. 3, lines 14-17. Thus, there is no reason to ignore the specific teachings of Horvitz and instead send multiple alerts for a critical message, as the Examiner suggests.

For each of these reasons, Horvitz does not teach or render obvious this feature of claim 18. Accordingly, the Examiner's continued rejection of claim 18 constitutes clear error and the applicant requests that the Board reverse the rejection of claim 18.

- Q. Claim 19 is patentable over Horvitz as Horvitz does not teach altering at least one of the predetermined range and the next range depending upon successes.

Claim 19 recites "altering at least one of the predetermined range and the next range depending upon successes." The Examiner proposes that Horvitz teaches this feature because "Horvitz teaches to update the probability based on successes or failure, column 7, lines 23-26." *See* Final Office Action, page 16. However, the applicant would like to point out that the claimed ranges are ranges against which probabilities are compared (claim 17); not probabilities themselves. Therefore, Horvitz's teachings of updating its probability have no connection to the claimed feature. As discussed above, Horvitz does not teach or suggest any ranges associated with its probability, and thus it cannot teach the features of this claim.

Further, even if the Examiner's statement is taken as true, it still does not establish that Horvitz teaches the claimed features. The Examiner asserts that Horvitz teaches updating a probability based on failures and successes, but the claim refers to updating a predetermined range of probabilities or a next range of probabilities, not a probability itself. Thus, even if Horvitz teaches what the Examiner asserts, it still does not teach the claimed features.

For each of these reasons, Horvitz does not teach the features of this claim. Accordingly, the Examiner's continued rejection of claim 19 constitutes clear error and the applicant requests that the Board reverse the rejection of claim 19.

P. Claim 26 is patentable over Horvitz as Horvitz does not teach several features of the claim.

Claim 26 refers to a method whereby, when a first call transfer attempt on a first device fails, a second call transfer is attempted on a second device. The Examiner argues that these features are obvious in view of Horvitz. *See* Final Office Action, page 20. However, as discussed above, it is not obvious to use multiple attempts in Horvitz because this is contrary to the purpose of Horvitz's system. *See* Horvitz col. 2, line 66 through col. 3, line 2, stating "Embodiments of the invention provide for advantages over the prior art. A user, for example, is not confronted with different alerts made in different manners ad hoc by different sources (e.g., programs or devices)."

Moreover, the system of Horvitz only sends alerts to the computer on which the user is working, not to multiple devices. *See* Horvitz col. 8, lines 15-17, stating "it is noted that alerts provide information at a cost of interruption and obstruction of valuable screen real estate." Thus, Horvitz does not teach or render obvious the claimed features of transmitting incoming calls to more than one device.

Also, the claim specifically refers to transmitting incoming calls to other devices. The system of Horvitz can accept incoming calls, but it does not forward the calls to the user. Instead it merely sends an alert notifying the user that the call was received. *See* Horvitz col. 6, lines 51-54, stating "The notifications decision-making module...206 alerts the user of the alerts received by the module 202." Therefore, Horvitz does not teach or render obvious the claimed features of transmitting incoming calls to other devices.

Finally, the Examiner argues that Horvitz teaches more than one probability and that this corresponds to the claimed first and second probabilities. *See* Final Office Action, page 20. However, Horvitz actually teaches that its "probability 300" can incorporate several probabilities and thus can be considered a "probability distribution." *See* Horvitz col. 6, lines 31-41, stating "The attentional status module 204 generates one or more probabilities (for example, a probability distribution), which in one embodiment can be defined as the probability that the user is receptive to receiving an alert". Horvitz goes on to teach that this 'probability', whether it is a single probability or probability distribution, is then used to determine how to respond to each

alert. *See* Horvitz col. 6, lines 50-55. Nowhere in Horvitz does it teach or suggest that one probability is used for one contact device and that another probability is used for another contact device. Thus, this teaching in Horvitz cannot correspond to the claimed first and second probabilities as the Examiner proposes.

For each of these reasons, Horvitz does not teach or render obvious this feature of claim 26. Accordingly, the Examiner's continued rejection of claim 26 constitutes clear error and the applicant requests that the Board reverse the rejection of claim 26.

### III. Argument Summary

In summary, the Examiner's obviousness rejections based on the single Horvitz reference lack foundation and are replete with impermissible hindsight. Therefore, the Horvitz reference and the Examiner's proposed modifications thereof do not render the claimed invention obvious.

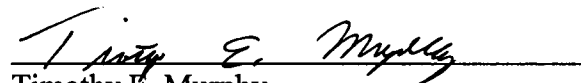
### CONCLUSION

For the foregoing reasons, the applicant requests that the Board reverse the Examiner's 35 U.S.C. § 103(a) rejections of the applicant's claims.

**Customer No. 20575**

Respectfully submitted,

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**CLAIMS APPENDIX**  
**37 C.F.R. § 41.37(c)(viii)**

The text of the claims on appeal (claims 1-26) is:

1. (previously presented) A network device, comprising:
  - a user interface configured to receive a preference from a user to associate at least one contact device and at least one time slot;
  - a predictor configured to predict a probability of the user answering an incoming call intended for the user at each of a plurality of contact devices;
  - a first port to receive the incoming call intended for the user;
  - a second port to send contact signals to at least one of the plurality of contact devices responsive to the incoming call, depending upon at least one of the preference and the probability;
  - a processor to:
    - determine connection information based upon the contact device at which the user responds to the contact signals; and
    - transmit the connection information to the predictor to allow the predictor to update probability data associated with the user.
2. (previously presented) The network device of claim 1, the device further comprising a memory to store the probability data, the probability data comprising a list of associations between contact devices and time slots.
3. (previously presented) The network device of claim 1, the user interface further configured to receive a selection from the user to select at least one of a predictive mode, a combination mode, and a preference mode, wherein:
  - in the predictive mode, the contact signals are sent to the at least one of the plurality of contact devices based on the probability;
  - in the preference mode, the contact signals are sent to the at least one of the plurality of contact devices based on the preference; and
  - in the combination mode, the contact signals are sent to the at least one of the plurality of contact devices based on the preference and the probability.

4. (previously presented) The network device of claim 1, wherein the plurality of contact devices are selected from the group consisting of: pagers, cellular phones, landline phones, computers, personal digital assistants, and mobile computing devices.

5. (previously presented) The network device of claim 1, the incoming call further comprising: a phone call, a fax signal, an instant message, and a video call.

6. (previously presented) A method of contacting a user, comprising:  
receiving an incoming call for a user at a first device;  
accessing user preferences for contacting the user;  
predicting a probability of the user answering the incoming call from at least one contact device based upon the user preferences and probability data;  
transmitting a contact signal to at least one device based on at least one of the user preferences and the probability;  
determining the success or failure of the contact signal by determining whether the user answered the incoming call; and  
updating the probability data based on the success or failure of the contact signal.

7. (previously presented) The method of claim 6, receiving the incoming call further comprising receiving one of the group consisting of: a phone call, a fax signal, an instant message and a video call.

8. (previously presented) The method of claim 6, accessing user preferences further comprising accessing an indicator specifying at least one of a predictive mode, a combination mode, and a preference mode.

9. (previously presented) The method of claim 8, accessing user preferences further comprising accessing the indicator for a combination mode and transmitting the contact signals further comprising determining the at least one device by applying a weighting factor based on the user preferences to the probability.

10. (previously presented) The method of claim 6, transmitting the contact signal further comprising transmitting the contact signal to a plurality of contact devices based on at least one of the user preferences and the probability.

11. (original) The method of claim 6, predicting a probability further comprising applying Bayes's Theorem to the contact devices.

12. (previously presented) The method of claim 6, transmitting a contact signal further comprising transmitting one of the group consisting of: a phone call, a fax signal, an instant message or a video call.

13. (previously presented) The method of claim 6, determining the success or failure further comprising determining at what contact device the user answers the incoming call.

14. (previously presented) The method of claim 13, updating the probability data further comprising raising the probability of the contact device at which the user answers the incoming call.

15. (previously presented) The method of claim 6, updating the probability data further comprising:

determining that a success rate is below a failure threshold after a predetermined period of time; and

querying the user to select a broadcast mode, select a probability mode, or update the user preferences.

16. (previously presented) The method of claim 6, updating the probability data further comprising:

determining that a success rate is above a success threshold; and

determining a probability for each of a plurality of contact devices based upon past successes.

17. (original) The method of claim 6, transmitting a contact signal further comprising:

determining a first set of contact devices having a probability of success within a predetermined range; and

sending multiple contact signals to contact devices in the first set in parallel; and

if no success occurs, determining a next set of contact devices having a probability of success within a next range.

18. (original) The method of claim 17, the method further comprising repeating the determining and sending processes until a success occurs.

19. (previously presented) The method of claim 17, the method further comprising altering at least one of the predetermined ranges and the next range depending upon successes.

20. (previously presented) A network device, comprising:  
a means for receiving a preference from a user associating at least one contact device with at least one time slot;  
a means for predicting a probability of the user answering an incoming call intended for the user at each of a plurality of contact devices;  
a means for receiving the incoming call intended for the user;  
a means for sending contact signals to at least one of the plurality of contact devices responsive to the incoming call, depending upon at least one of the preference and the probability;  
a means for:  
determining connection information based upon the contact device at which the user responds to the contact signal; and  
transmitting the connection information to the predictor to allow the predictor to update probability data associated with the user.

21. (previously presented) The network device of claim 20, the device further comprising a means for storing the probability data.

22. (previously presented) A computer-readable medium containing computer-executable instructions that, when executed, cause the computer to:  
receive an incoming call for a user at a first device;  
access user preferences for contacting the user;  
predict a probability of the user answering the incoming call from at least one contact device based upon the user preferences and probability data;  
transmit a contact signal to at least one device based on at least one of the user preferences and the probability;  
determine the success or failure of the contact signal by determining whether the user answered the incoming call; and  
update the probability data based on the success or failure of the contact signal.

23. (previously presented) The medium of claim 22, the code causing the computer to update the probability data further causing the machine to:

determine that a success rate is below a failure threshold after a predetermined period of time; and

query the user to select a broadcast mode, select a probability mode, or update the user preferences.

24. (previously presented) The medium of claim 22, the code causing the computer to update the probability data further causing the machine to:

determining that a success rate is above a success threshold; and

determining a probability for each of a plurality of contact devices based upon past successes.

25. (previously presented) The medium of claim 22, the code causing the computer to update the probability data further causing the machine to transmit a contact signal further comprising:

determine a first set of contact devices having a probability of success within a predetermined range;

send multiple contact signals to contact devices in the first set in parallel; and

if no success occurs, determine a next set of contact devices having a probability of success within a next range.

26. (previously presented) A method of contacting a user, comprising:  
receiving an incoming call for a first user from a second user;  
accessing a first probability of the first user answering the incoming call on a first contact device;

transmitting the incoming call to the first contact device based on the first probability;  
determining the success or failure of the transmitting by determining whether the first user answered the incoming call at the first device;

updating probability data based on the success or failure of the transmitting; and  
when a failure is determined:

accessing a second probability of the first user answering the incoming call on a second contact device from the plurality of contact devices; and

transmitting the incoming call to the second contact device based on the second probability.

**EVIDENCE APPENDIX**

**37 C.F.R. § 41.37(c)(ix)**

NONE

**RELATED PROCEEDINGS APPENDIX**

**37 C.F.R. § 41.37(c)(x)**

NONE